UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,468	01/19/2006	Qingliang Liu	80170-1010	8096

24504   7590   05/06/2010
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EXAMINER
NGUYEN, BRIAN D

ART UNIT	PAPER NUMBER
2472	

MAIL DATE	DELIVERY MODE
05/06/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
10/565,468</td><td>Applicant(s)
LIU ET AL.</td></tr>
<tr><td>Examiner
BRIAN D. NGUYEN</td><td>Art Unit
2472</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2010*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feinberg et

al (2004/0001579) in view of Campanella et al (2001/0017849).

        Regarding claim 1, Feinberg discloses a method for realizing dynamic adjustment of data

bandwidth in transmission equipment (see shared resources to be dynamically allocated and re-

allocated in paragraph 0019), comprising adding, by a device (50 in figure 2) for realizing

dynamic adjustment of data bandwidth in transmission equipment, a control channel (see D

channel is used to provide signaling-type information for T-1 in paragraph 0290. Note that when

a D channel is used for signaling, the other 23 channels of T-1 will be used for traffic. Without D

channel, all 24 channels will be used for traffic. Note also that page 5 of the specification states

that time slot 1 is used for control channel. In other words, one out of 24 T-1 channels is

allocated for control channel. Therefore, the control channel in the claimed invention is the same

as D channel in Feinberg) in a trunk link (link T-1 in figure 4 and paragraph 0199) of the

transmission equipment. Feinberg does not specifically disclose the control channel is for

describing occupancy on time slots by a current service. However, Campanella discloses a

control channel (a time slot control channel (TSCC)) in a trunk link (see TDM in figures 10,

13B, 23) for describing occupancy on time slots by current service (see paragraph 0085 where

Campanella teaches that symbols associated with a channel are extracted from the TDM frame **time slot locations identified in** the TSCC; see paragraph 0149 where Feinberg teaches that the TSCC comprises a time slot control word **for each of the time slots 1 through 96**. Note that each time slot control word comprises a channel identifier. See also figure 26 for a diagram depicting a time slot control word). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the time slot control channel as taught by Campanella in the system of Feinberg in order to control the allocation of time slots.

Regarding claim 2, Feinberg discloses the control channel implements dynamic distribution on time slots (see dynamic allocation and re-allocation of the shared resources in paragraph 0019 and data, voice, video streams sharing a common T-1 trunk in paragraph 0199) and of in PCM line (see PCM in paragraphs 0079 and 0372) under control of CPU (see intelligent/dynamic bandwidth management 31 in figure 4).

Regarding claim 3, Feinberg discloses the dynamic distribution on time slots is controlled by channel control words (control signal) written in the control channel, and the control channel comprises one or more time slots (see paragraph 0279 where Feinberg discloses T-1 (T-1 comprises time slots), paragraph 0290 where Feinberg discloses control channel (D signaling channel), paragraph 0424 where Feinberg for T-1 framing functions and signaling channel controller functions, and dynamic bandwidth manager 31 in figure 4). As stated in the rejection of claim 1, Campanella discloses control words in paragraph 0149.

Regarding claim 4, Feinberg discloses the current service comprises voice service and data service (see paragraph 0009).

Regarding claim 5, Feinberg discloses the method is applied in peer networking (see point-to-point in paragraphs 0241 and 0243).

Regarding claim 6, Feinberg discloses a device for realizing dynamic adjustment of data bandwidth in transmission equipment, comprising: a control word (control signal 92 in figure 3) process circuit (70), a time slot distribution circuit (bandwidth manager 31 in figure 4 and allocate/re-allocate resources 99 in figure 5) and a CPU interface circuit (see processor in paragraph 0076), wherein the control word process circuit is designed to complete extraction (see paragraph 0076 and control signal 92 received at the process circuit, the extracting is performed when the process circuit receives a control signal such as signal 92. see also framing in paragraph 0010) and insertion of control information (inserting is performed when the process circuit wants to send a control signal to another elements in the system, control signal 92 is sent from the process circuit 70 in figure 3. See also deframing in paragraph 0010) in control channel of El/T1 link (see D signaling channel provide signaling information for T-1 in paragraph 0290); the time slot distribution circuit is designed to complete separating voice time slots from Ethernet data time slots, and rebuilding data (see voice and data in paragraph 0009. See deframing in paragraph 0010). Feinberg does not specifically disclose controlling on time slot distribution. However, Campanella discloses a control channel (time slot control channel) TSCC) controlling time slot distribution (see paragraph 0149 where Campanella teaches the use of a time slot control word for each of 96 time slots to identify time slot distribution/channel allocation). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the time slot control channel as taught by Campanella in the system of Feinberg in order to control the allocation of time slots.

Regarding claim 7, Feinberg discloses High Level Data Link Control (HDLC) (see

HDLC in paragraphs 0010, 0077), Media Access Control (MAC) (see MAC in paragraph 0070)

frame process circuit to implement processing HDLC link for Ethernet data, checking integrity

of MAC frame, comparing and learning MAC addresses (paragraphs 0070, 0083, 0292, 0412).

Regarding claim 8, Feinberg discloses the time slot dynamic distribution circuit is

controlled by channel control words (control signal) written in a control channel (D signaling

channel for T-1 in paragraph 0290), and the control channel comprises one or more time slots (T-

1 has 24 time slots).

Regarding claim 9, Feinberg discloses a method for realizing dynamic adjustment of data

bandwidth in transmission equipment, comprising: releasing the time slots from data service by

the time slot distribution circuit (see re-allocate resources 99 in figure 50; and distributing to the

voice service (see voice 93 and data 95 in figure 5; see also voice is assigned priority 3 and data

is assigned priority 5 in paragraph 0095); informing the time slot distribution circuit by CPU of

the time slot having been released by the voice service after voice call finishes (see status and

availability in paragraph 0098); and distributing the time slots to Ethernet data service by the

time slot distribution circuit (31 in figure 4 and 99 in figure 5), whereby dynamic adjustment of

Ethernet data service is implemented (see dynamic allocation and re-allocation of bandwidth in

paragraph 0019). Feinberg discloses allocate time slots for voice service but does not explicitly

discloses the time slots to be occupied by voice service. However, Campanella discloses the use

of a time slot control channel to identify the occupancy of each time slot in the frame (see

paragraph 0149). Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to use the time slot control channel as taught by Campanella in

the system of Feinberg in order to control the allocation of time slots.

Regarding claim 10, claim 10 is a method claim that has substantially the same

limitations as the respective apparatus claim. Therefore, it is subject to the same rejection.

Response to Arguments

3.   Applicant's arguments filed 3/19/10 have been fully considered but they are not

persuasive.

The applicant argues that Campanella does not disclose describing **occupancy** on time

slots by **a current service**. The examiner respectfully disagrees because the control word

disclosed by Campanella clearly teaches the occupancy of each of the 96 channels and the

current service is the service provided in each of the time slots. The applicant further argues that

D channel disclosed by Feinberg is not equivalent to the control channel of E1/T1 link. The

examiner respectfully disagrees because the D signaling channel disclosed by Feinberg is for T-

1. Therefore, the D channel and the applicant's control channel are the same using in T-1. the

applicant further argues that Feinberg does not discloses extracting and inserting of control

signaling information. The examiner respectfully disagrees because these processes are

performed by the signaling controller to control other elements in the system. Regarding voice

time slots, at least VoIP occupies time slots. Regarding claim CPU interface circuit, processor

(CPU) is mentioned throughout the reference. Processor in element 70 is one of the processors.

Regarding TSCC, TSCC clearly describing occupancy of the time slots as claimed in the claims.

The applicant further argues that the data service and the telephone service occupy different

telephone lines but not time slots. The examiner respectfully disagrees because Feinberg clearly

disclosed this feature as described in previous paragraphs. Note that voice in Feinberg's system

includes VoIP that is transmitted through data network. The applicant further argues that

Feinberg does not give any information about time slot distribution circuit. The examiner

respectfully disagrees because bandwidth manager 31 performs time slot distribution. The

applicant further argues that Campanella does not disclose informing a time slot distribution

circuit by CPU of time slots to be occupied by a voice service. The examiner respectfully

disagrees because a CPU can be a separate element or integrated into element 362.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN D. NGUYEN whose telephone number is (571)272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

5/3/10
/Brian D Nguyen/
Primary Examiner, Art Unit 2472